To Elect or to Appoint?
Appendix B: Expressive and Strategic Voting.

Matias Iaryczower, Garrett Lewis and Matthew Shum

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In this appendix we consider a procedure to assess quantitatively whether the expressive or strategic voting model is more appropriate for the state supreme court voting data used in this paper. As we remarked in the main text, for a given set of cases, the first-stage likelihood function for the votes is identical for both the expressive and strategic voting models, and in this sense the two models are observationally equivalent. Here, we bring additional data to bear which was not used in our main analysis, in order to discriminate between these models.

Specifically, in the paper we only considered cases in which all members of the court vote. Because of this, we did not use the subsample of cases for which only $k < n$ of the court members (an "incomplete court") voted. This is the additional subsample which we use to compare the strategic and expressive voting models. In particular, using the estimates from the main analysis, we construct predicted voting probabilities for these "incomplete court" cases, under both the strategic and expressive voting hypotheses. We then compare the two models based on which one generates the higher likelihood according to these predicted voting probabilities. We proceed in the following sequence of steps.

1. We select four states (Massachusetts, Connecticut, Montana and Pennsylvania) in which the size of the full court is $n = 7$, and for which there are a relatively large number of cases in which only $k = 5$ justices vote. This gives us a total of 317 cases, with 50 from Massachusetts, 116 from Connecticut, 125 from Montana, and 26 from Pennsylvania. (See Table 1.)

2. For each case $t \in S$, let $d(t)$ be the set of 5 justices voting in case t, and let $e(t)$ be a complete (7 member) court observed in the data that contains d_t. Using our estimates,

we compute for each case $t \in S$ (i) the conditional voting probabilities $(\gamma_0(t), \gamma_1(t))$, (ii) the prior $\rho(t)$ and the (iii) types consistent with the expressive voting model $(\theta(t), \pi^{exp}(t))$ and (iv) strategic voting model $(\theta(t), \pi^*(t))$, *for the counterfactual in which all of* $e(t)$ *justices – the "complete court" – voted in case* t.

3. We can now compute our estimates of the conditional voting probabilities for each member $j \in d(t)$ in each case $t \in S$ for the actual "incomplete" court $d(t)$ observed in case t. For the expressive voting model, the voting probabilities for each judge is invariant to whether the court is complete or incomplete, so that the likelihood for the observed votes in case t under the expressive voting model is

$$L^S_{exp} = \rho(t) \prod_{i \in d(t)} \left[\gamma_{i,1}(t)^{v_{it}}(1-\gamma_{i,1}(t))^{1-v_{it}}\right] + (1-\rho) \prod_{i \in d(t)} \left[\gamma_{i,0}(t)^{v_{it}}(1-\gamma_{i,0}(t))^{1-v_{it}}\right]$$

In the strategic voting model, however, a judge's equilibrium voting probabilities depend on the number and characteristics of the other judges, so that the voting probabilities in the complete and incomplete courts will differ. To compute the equilibrium voting probabilities for the actual "incomplete" court in case t consistent with the strategic voting model, then, involves recomputing the equilibrium strategies given the estimated preference parameters. Specifically, we: (i) take the estimates of the prior ρ_t and the types consistent with the strategic voting model (θ_t, π^*_t) for the counterfactual in which all of $e(t)$ justices voted in case t, as computed in (ii) and (iv) above (these are contingent on X_t, and therefore typically different in each case t); (ii) using the estimates of $(\theta_t, \pi^*_t, \rho_t)$ for each case t, compute the equilibrium strategies consistent with the five member court $d(t)$, say $\tilde{s}(t)$, according to the equilibrium conditions of the strategic voting model, as in Eq. (4) of the main text; and finally, (iii) use $\tilde{s}(t)$ to compute the conditional voting probabilities consistent with the strategic voting model for the five member court $d(t)$ in each case $t \in S$, say $(\tilde{\gamma}_0(t), \tilde{\gamma}_1(t))$. Then the likelihood for the strategic voting model in sample S is

$$L^S_{st} = \rho(t) \prod_{i \in d(t)} \left[\tilde{\gamma}_{i,1}(t)^{v_{it}}(1-\tilde{\gamma}_{i,1}(t))^{1-v_{it}}\right] + (1-\rho) \prod_{i \in d(t)} \left[\tilde{\gamma}_{i,0}(t)^{v_{it}}(1-\tilde{\gamma}_{i,0}(t))^{1-v_{it}}\right]$$

We can then compare the likelihood for the strategic and expressive voting models on S. A finding that $L^S_{st} > L^S_{exp}$ provides evidence in favor of the strategic voting model, while $L^S_{exp} < L^S_{st}$ provides evidence in favor of the expressive voting model.

The results from this exercise, shown in the bottom of Table 1, indicate that these two likelihoods are virtually identical: $L^S_{st} = 57.78 \simeq 59.17 = L^S_{exp}$. Thus, this test slightly favors the expressive model, but this small difference in the likelihood functions would not be statistically significant given the modest sample size.[1] Hence, it appears difficult to distinguish between the strategic and expressive voting models using the data employed in this paper.

State	**# cases**	**full court size**	**reduced court size**
Massachusetts	43	7	5
Connecticut	109	7	5
Montana	124	7	5
Pennsylvania	25	7	5
Total:	301		
Log-likelihoods:			
Expressive model	59.17		
Strategic model	57.78		

Table 1: Specification test results

[1] Given the test outcome, we did not attempt to approximate the sampling distribution of these statistics; adequately accommodating the sampling error in both the parameter estimates used in the exercise, as well as the intrinsic sampling error in the subsample of "incomplete court" cases, would require a multi-step bootstrapping procedure which is computationally burdensome.